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XI. *Meteorological Obſervations for* 1767, *made at* Carliſle, Bridgwater, *and* Ludgvan; *and communicated by the Biſhop of* Carliſle, *F. R. S.*

OBSERVATIONS made by Dr. CARLYLE at CARLISLE in CUMBERLAND,

N. B. Under column 1. ſtand the months. Column 2. contains an account of the barometer; in which are noted, the higheſt and loweſt morning and evening ſtations of the mercury, in the month, included within the ſame lines; when two or more numbers are put before any ſtation, it denotes it to have been alike on theſe ſeveral days. Column 3. contains an account of the thermometer; noted in like manner as the barometer. Column 4. contains an account of the hygrometer; the firſt line notes the day of the month on which the greateſt quantity of rain fell that month, and what that quantity was, in inches and decimals; the ſecond the total depth of rain in the month. Column 5. contains the ſtate of the winds, weather, &c.

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
January	Higheſt. 4. Morn. 30.1 4. Even. 30.125 Loweſt. 11. Morn. 28.925 11. Even. 29.05	Higheſt. 31. Morn. 45 31. Even. 47 Loweſt. 10. Morn. 25 10. Even. 25	22. 0.955 Total 1.647	The month opened with very ſtormy winds from the North; ſucceded by froſt, and ſome ſnow: but on the 10th began to fall the deepeſt and longeſt continued ſnow remembered here; it was meaſured to full 14 inches deep, on the level, in Carliſle, in the evening of the 11th; and the ground remained covered thus with it till the 26th and 27th; while the firſt ſnow fell, the wind was North; when the great one fell it was South-Weſt, and very high. The remainder of the month it was chiefly ſoutherly. Though the ſnow went off remarkably gently, yet it occaſioned two very great floods, on the 26th and 27th; till which time, the thermometer had kept moſtly conſiderably under 40. The 10th it was the loweſt for the whole day I ever remember it.

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Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
February	Higheſt. 25. Morn. 29 95 3, 24. Even. 29.95 Loweſt. 14. Morn. 29.0 13, 26. Even. 28.975	Higheſt. 1, 2, 4, 5. Morn. 47 2, 3, 4, 11. Even. 48 Loweſt. 7,11,19,21,28. Morn. 43 28. Even. 43	24. 0.41 Total 2.426	Weather pretty mild and open, but cloudy, with frequent rains. A flood on the 17th. Wind till the 8th, from the South; then northerly nigh a week; afterwards moſtly in the ſouthern points. On the 20th a ſtorm from South-Weſt.
March	Higheſt. 30. Morn. 30.125 9. Even. 30.125 Loweſt. 19. Morn. 29.075 18. Even. 29.2	Higheſt. 31. Morn. 50 31. Even. 51 Loweſt. 15. Morn. 35 14. Even. 38	18. 0.366 Total 1.586	Weather cloudy, with ſmall rain till the 6th; when it became fair and froſty till the 15th; the middle of the month was very wet, and ſnow fell on the hills: the latter end was mild and fair. Winds moſtly in the Weſt quarter till the laſt week, when it turned eaſterly. The barometer was in general high.
April	Higheſt. 30. Morn. 30.45 30. Even. 30.475 Loweſt. 22. Morn. 29.6 22. Even. 29.7	Higheſt. 1, 2, 10, 14. Morn. 52 30. Even. 55 Loweſt. 17, 18. Morn. 43 16, 17, 18. Even. 46	1. 0.135 Total 0.211	Barometer in general very high through this month; the weather fair and dry. On the 16th and 17th very hard froſt; on the 18th ice one-tenth of an inch thick on the roads; on the 19th all the hills covered with ſnow. Wind in the beginning from South and Eaſt; afterwards often from the North and Eaſt.
May	Higheſt. 1. Morn. 30.475 1. Even. 30.4 Loweſt. 30. Morn. 29.225 29, 30. Even. 29.3	Higheſt. 3. Morn. 58 18. Even. 60 Loweſt. 6. Morn. 47 5, 7. Even. 49	30. 0.908 Total 3.141	Barometer lower in general than laſt month. Weather favourable till the 9th; rainy and moiſt till the 13th; dry and duſty till the 24th; after this rainy, till the end. Wind in the middle of the month North and Eaſt. Its beginning and end South and Weſt. Cuckow heard on the 12th.
June	Higheſt. 9, 10. Morn. 30.4 9. Even. 30.4 Loweſt. 1. Morn. 29.575 1. Even. 29.575	Higheſt. 11. Morn. 61 9, 10, 11. Even. 62 Loweſt. 4, 5. Morn. 49 3. Even. 49	24. 0.174 Total 0.559	Weather to the 14th bright and fair. Winds North or Eaſt. After that frequent ſhowers, to the end of the month, from the North-Weſt or South-Weſt quarters.

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
July	Higheſt. 17. Morn. 30.05 16. Even. 30.05 Loweſt. 4. Morn. 29.25 3. Even. 29.15	Higheſt. 20. Morn. 62 19, 20, 30. Even. 62 Loweſt. 2, 6, 16. Morn. 56 1. Even. 53	6. 0.414 Total 3.941	Very few days quite fair this month, yet the rain fell ſo much in ſhowers, or in the night, the hay harveſt was not much interrupted by it. Wind moſtly from the South or Weſt points. Thunder on the 12th and 20th, with violent rains to the Eaſt of us. On the 23d great lightnings.
Auguſt	Higheſt. 27, 28. Morn. 30.2 27. Even. 30.225 Loweſt. 15. Morn. 29.375 14. Even. 29.35	Higheſt. 5. Morn. 67 4, 29. Even. 68 Loweſt. 19. Morn. 55 19. Even. 55	14. 0.296 Total 2.03	Weather very variable, as were the winds, with frequent and ſudden changes of ſhowers and ſunſhine; towards the end of the month more ſettled weather. Barometer in general low. Thunder, with ſevere ſhowers, on the 4th. N. B. The thermometer at Roſe Caſtle, in the open air, hung againſt the North wall of the tower, on the 4th roſe to 80 at noon; at 1 p. m. was at 78; at 2, 77; at 3, 76.
Septemb.	Higheſt. 21. Morn. 30.45 21. Even. 30.45 Loweſt. 7. Morn. 29.55 4, 6. Even. 29.575	Higheſt. 21. Morn. 65 21, 24. Even. 64 Loweſt. 30. Morn. 54 30. Even. 54	14. 0 552 Total 3.065	The wind moſtly ſoutherly. On the 6th thunder with ſevere ſhowers. From the 16th to the 26th bright clear weather, without a ſhower. Some bluſtering winds from the North-Weſt in the end of the month.
October	Higheſt. 13, 14. Morn. 30.35 12, 13. Even. 30.35 Loweſt. 4. Morn. 29.0 4. Even. 29 15	Higheſt. 26. Morn. 58 24, 26. Even. 57 Loweſt. 9, 11. Morn. 43 8. Even. 45	7. 0.572 Total 2.954	Wind moſtly in the Weſt. The 3d and 4th very ſtormy from the Weſt and North-Weſt. On the 8th a flood, and the hills covered with ſnow. The 9th and 10th hard froſt, with thick ice upon the waters; which was ſucceeded by rain. From the 18th were high winds from the South-Weſt for nigh a week. The 29th, 30th, and 31ſt, were alſo very ſtormy from the ſame quarter.

Month.	Barometer.	Thermometer.	Hygrometer.	State of the Winds, Weather, &c.
Novemb.	Higheſt. 28. Morn. 30.3 23. Even. 30.225 Loweſt. 14. Morn. 28.65 14. Even. 28.95	Higheſt. 10. Morn. 55 9. Even. 54 Loweſt. 16. Morn. 38 15. Even. 41	14. 0.593 Total 4.084	Winds moſtly from the South or Weſt, with almoſt conſtant rains till the 16th; inſomuch that we had a remarkably high flood on the 7th; and three other very conſiderable ones on the 10th, 12th, and 14th. On the 15th the hills all round were covered with ſnow. We had very ſtormy winds on the 10th, 11th, and 13th. On the 14th hail, thunder, and lightning: the lightnings had been very frequent in the nights, particularly from the 8th, and continued to the 22d, though thunder was rarely heard. On the 16th a ſmart froſt ſet in for three days. On the 19th was another, but leſs flood; from thence cloudy and ſhowery to the end of the month. On the 26th coughs were almoſt univerſal among the horſes, both in town and country; though very few died.
Decemb.	Higheſt. 3. Morn. 30.575 2. Even. 30.55 Loweſt. 7, 8. Morn. 29.45 7. Even. 29.45	Higheſt. 16. Morn. 50 15. Even. 49 Loweſt. 31. Morn. 26 30. Even. 27	14. 0.203 Total 0.624 Tot. for the Y. 26.268	Winds in the Weſt to the 16th. Weather cloudy and ſhowery, with ſnow on the hills. From the 16th to the end bright, with froſt. Winds from the Eaſt. Snow began to fall on the 24th; on the 27th it fell 2 inches and a quarter deep; which, coming with hard froſt, remained on the ground to the end of the month.

G. Carlyle.

OBSERVATIONS

OBSERVATIONS at BRIDGWATER, SOMERSET.

Month.		Barometer.	In. Dec.	State of the Weather and Wind.	Fahrenheit's Thermometer.		Deg.	Ombrometer. In. Dec.
January	1.	Higheſt	30 ,23	The firſt part of the month froſty. Wind N. E. and N. W. The latter part ſtormy, with high winds, and variable from N. W. to S. W. The 11th the ſnow was 6 inches deep, undriven.	31.	Higheſt	50	1 ,265
	14.	Loweſt	28 ,85		10.	Loweſt	13	
February	24.	Higheſt	30	Stormy throughout. The wind in general either S. W. or S. E.; and in the latter part of the month high.	26.	Higheſt	51	3 ,372 ½
	20.	Loweſt	29		23.	Loweſt	36	
March	6.	Higheſt	30 ,15	The firſt part cloudy and ſunſhine alternately. The latter part intermixed with ſtorms. The wind generally S. W. in the firſt part; and variable to N. W. and S. E. in the latter.	31.	Higheſt	51	1 ,802 ½
	19.	Loweſt	29 ,08		15.	Loweſt	34	
April	30.	Higheſt	30 ,45	The firſt and laſt parts ſettled, with ſunſhine and cloudy intermixed. From the 20th to the 26th ſome rain. The wind generally N. E.	1.	Higheſt	53	1 ,217 ½
	21.	Loweſt	29 ,25		17.	Loweſt	37	
May	1.	Higheſt	30 ,40	The firſt part ſettled fair. The middle ſtormy, and the latter part changeable. The wind for much the greater part N. W.	12.	Higheſt	59	1 ,147 ½
	30.	Loweſt	29 ,18		5.	Loweſt	41	
June	8.	Higheſt	30 ,29	The firſt week ſtormy. The remainder ſettled fair. The wind N. W. or N. E.	25.	Higheſt	67	,920
	3.	Loweſt	29 ,39		3.	Loweſt	43	
July	27.	Higheſt	29 ,94	Unſettled, and rainy in general. The wind almoſt conſtantly S. W.	29.	Higheſt	67	4 ,107 ½
	5.	Loweſt	29 ,28		5.	Loweſt	53	

Month.		Barometer.		State of the Weather and Wind.	Fahrenheit's Thermometer.			Ombrometer.
			In. Dec.				Deg.	In. Dec.
Auguſt	27.	Higheſt	30 ,15	The firſt week ſettled fair. The remainder unſettled and	4.	Higheſt	66	2 ,870
	14.	Loweſt	29 ,44	rainy. The wind generally N. W. and gentle.	17.	Loweſt	52	
September	21.	Higheſt	30 ,32	The firſt part changeable and ſtormy. The latter part	4.	Higheſt	64	2 ,245
	4.	Loweſt	29 ,50	ſettled fair. The wind variable. The firſt and latter part rather ſtrong; in the middle gentle.	29.	Loweſt	52	
October	13.	Higheſt	30 ,34	From the 1ſt to the 9th windy and ſtormy. Settled to the	26.	Higheſt	60	3 ,572 ½
	3.	Loweſt	29 ,18	17th; and from thence to the end unſettled. The firſt part the wind generally N. E. and N. W. The latter part S. W.	13.	Loweſt	36	
November	28.	Higheſt	30 ,37	The firſt part unſettled, with high winds. The latter part	9.	Higheſt	59	1 ,902 ½
	14.	Loweſt	28 ,08	cloudy and foggy, with gentle wind. In the beginning and latter part the wind N. W.; and in the middle generally S. W.	17.	Loweſt	31	
December	3.	Higheſt	30 ,57	To the 22d generally cloudy; and from thence to the end	9.	Higheſt	52	,427 ½
	19.	Loweſt	29 ,20	froſty. The wind through the whole month gentle, and generally either N. E. or N. W.	31.	Loweſt	17	
				At 10 A. M. On the 3d of this month the mercury in the barometer ſtood at 30 ,59.				
					Total of Rain			24 ,850

OBSERVATIONS

OBSERVATIONS at LUDGVAN, in MOUNT'S-BAY, CORNWALL.

1767. Month.	Barometer. Nonius's Diviſion.	In.	Dec.	General State of the Weather and Wind.	Fahrenheit's Therm. high. low. and Med. of three Obſ. each Day; the Therm. conſtantly expoſed in the Air, never to the Sun.			Med.	Ombr. In.
January	1. Higheſt 13. Loweſt	30 28	,17 ,50	Colder than uſual. On the 8th ſnow began to lie upon hard froſt. On the 11th ſnow near 8 inches deep in plains. On the 13th a quick thaw; and on the 14th 8 a. m. ſnow and froſt all gone. Wind moſtly N. and E. Stormy.	27. 12.	Higheſt Loweſt	48 31	41 $\frac{6}{31}$	3 725
February	24. Higheſt 20. Loweſt	29 28	,91 ,89	Miſty, ſtormy, rainy. On the 12th a ſtorm from midnight to 4 a. m. On the 20th a violent ſtorm, with much rain. Wind moſtly W.	7. 23.	Higheſt Loweſt	49 42	46 $\frac{23}{28}$	6 370
March	5. Higheſt 27. Loweſt	30 29	,8 ,7	Cloudy. Calms. In the middle, for two days, ſleet, calms, and froſt; reſt variable, calm, wind, and rain. Winds variable.	31. 16.	Higheſt Loweſt	50 39	45 $\frac{17}{31}$	3 600
April	30. Higheſt 23. Loweſt	30 29	,26 ,5	Miſty. Fair. Calms. Winds moſtly N. E. and W. nearly equal.	26. 19.	Higheſt Loweſt	51 43	47 $\frac{27}{30}$	2 000
May	1. Higheſt 31. Loweſt	30 29	,27 ,15	Variable.	26. 6.	Higheſt Loweſt	57 47	53 $\frac{5}{31}$	1 900
June	8. Higheſt 2. Loweſt	30 29	,20 ,37	Variable; but moſtly miſts and calms. Winds generally had ſome point of the N.	25. 4.	Higheſt Loweſt	67 46	57 $\frac{4}{30}$	0 500
July	1. Higheſt 8. Loweſt	29 29	,90 ,34	Frequent rain and ſhowers. Wind moſtly W.	22. 5.	Higheſt Loweſt	62½ 50	57 $\frac{17}{31}$	5 775

Month.	Barometer. Nonius's Diviſion.			State of the Weather and Wind.	Fahrenheit's Thermometer. Higheſt, Loweſt, and Medium, of three Obſerv. each Day.				Ombr.	
		In.	Dec.					Med.	In.	
Auguſt	26. Higheſt 20. Loweſt	30 29	,10 ,45	Calm. Sunſhine. Showery. Winds variable, nearly equal.	28. Higheſt 26. Loweſt	67 52	}	58 $\frac{17}{31}$	2	200
September	20. Higheſt 4. Loweſt	30 29	,24 ,37	Variable Winds; the Weſt prevailing, Miſty calms, fogs, with ſunſhine mornings.	20. Higheſt 8. Loweſt	66 51	}	57 $\frac{21}{30}$	2	390
October	13. Higheſt 4. Loweſt	30 29	,13 ,20	Rainy. Stormy. Calms. Windy; moſtly from the Weſt.	2. Higheſt 12. Loweſt	59 41	}	52 $\frac{1}{31}$	4	140
November	28. Higheſt 16. Loweſt	30 28	,26 ,93	Miſty ſhowers and rain. Stormy. Violent Storm on the 13th from S. S. W. Thunder and lightning, with ſhowers; the extreme at 11 p. m. Wind moſtly Weſt.	3. Higheſt 16. Loweſt	57 40	}	50 $\frac{4}{30}$	2	580
December	3. Higheſt 19. Loweſt	30 28	,42 ,80	Calm miſts. In the middle of the month ſtormy with rain. On the 19th a ſtorm. On the 20th ditto; reſt hard froſt with ſome ſnow.	10. Higheſt 26. Loweſt	53 29	}	40 $\frac{17}{31}$	1	920

Total of Rain this Year at Ludgvan 37 $\frac{100}{1000}$

William Borlaſe.

XIV. *Account*